

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. When strikethrough cannot easily be perceived, or when five or fewer characters are deleted, [[double brackets]] are used to show the deletion. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claim 4 in accordance with the following:

1-3. (Cancelled)

4. (currently amended) A method of sensitive, qualitative and quantitative analysis of radionuclides in a sample by multiple gamma-ray detection, which comprises:

providing a sample comprising radionuclides;

detecting simultaneously a pair of gamma-rays emitted concurrently from any of the radionuclides in the sample with a multiple gamma-ray detector assembly comprising a plurality of gamma-ray detectors to determine energies of each of the concurrent pairs of gamma-rays;

constructing a two-dimensional matrix having two axes by specifying the energy of one gamma-ray of the concurrent pair of gamma-rays on one of the two axes and the energy of the other gamma-ray on the other axis and by plotting on another axis vertical to the two axes count (intensity) of each gamma-ray combination at a coordinate specified by the two gamma-ray energies on the matrix;

specifying each radionuclide from the position of ~~the~~a peak on the matrix by referring to known data of gamma-rays emitted from each radionuclide;

comparing the peak for each radionuclide with a standard radiation source having known energy and intensity to measure the content of each radionuclide in the sample.

5. (previously presented) The method according to claim 4, wherein the sample has been produced by a nuclear reaction induced with neutrons or gamma-rays.